



# Suspension Rail and Car Bridge

## Structural Evaluation and Cable Analysis

### Client:

Weidlinger Associates

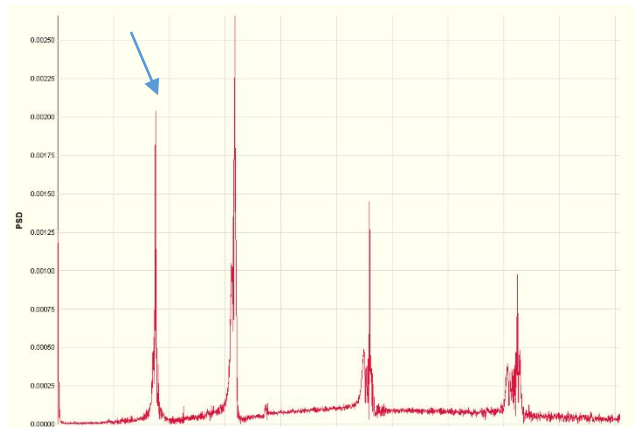
### Project:

This bridge is 2090 metres long suspension bridge. The bridge is 105 years old and consists of 7 vehicular lanes and 4 subway tracks. STRAAM was contracted to perform a dynamic analysis of each suspension cable. Using our instrumentation STRAAM was able to identify each cables fundamental frequency within a matter of minutes. This was then used to calculate the amount of tension in each cable.



### Benefit to the Client

Our method utilized the normal traffic conditions on the bridge and did not require any additional lane closures. With each cable requiring about 1 minute of recording at 200 Hz, the field time was minimal. Measuring the fundamental frequency of each cable is one of the most efficient and cost effective ways to determine the tensioning in the cable.



### Instrumentation

For this project STRAAM Group utilized a SENSR triaxle accelerometer and compatible software. This allowed for real time viewing of the PSD (shown above).